[0068] As an example, icons associated with types of functionality may be presented on a driver side (e.g., along a left side from a top to a bottom of the display). Thus, the driver may easily access these icons. Upon selection of an icon, a menu or user interface associated with the icon may be presented on the driver side. In contrast, the unified user interface may present the icons on a passenger side. Upon selection of an icon, a menu or user interface associated with the icon may be presented on the passenger side.

[0069] As will be described, in some embodiments the unified user interface may update based on whether a driver or passenger is interacting, or is going to interact, with the unified user interface. For example, a system or processor may identify whether a driver or passenger is interacting with, or is about to interact with, the unified user interface. The system may optionally obtain information from infrared emitters or projectors. These may indicate whether an end-user's hands are reaching the unified user interface from a particular side of a display. The unified user interface may thus update based on the particular side after detection of the user's hand moving towards the display. The system may optionally obtain information based on one or more cameras positioned inside the vehicle. For example, the system may analyze video or images to determine whether a driver or passenger is using, or is going to use, the unified user interface.

[0070] The above embodiments of the unified user interface, and other embodiments, are described in more detail below.

[0071] Example Block Diagrams

[0072] FIG. **1**A illustrates a block diagram of an example contextual user interface system **100** causing presentation of a user interface **102** (e.g., the unified user interface described herein). The contextual user interface system **100** may be a system of one or more processors, an application specific integrated circuit, and so on. The contextual user interface system **100** may be included in a vehicle, such as an electric vehicle, and may cause a display to present the user interface **102**. The display may be, for example, a touch-sensitive display included in a front portion of the vehicle. For example, the display may be included in a central front portion of the vehicle.

[0073] The contextual user interface system **100** may receive user input **104** provided by a user of the user interface **102**. Example user input **104** may include touch-based user input, verbal commands, and so on. In this way, the user of the user interface **102** may interact with the user interface **102**. For example, the user may provide user input **104** to operate different aspects of the vehicle. In this example, the user may select from among icons **108**A-**108**H. Each icon may enable control of a type of vehicle functionality. For example, icon **108**A may enable control of certain driving functionality (e.g., control of steering sensitivity, acceleration characteristics, and so on). As another example, icon **108**H may enable control of a music streaming application.

[0074] Thus, the contextual user interface system **100** may output vehicle operation information **106**. For example, the information **106** may be provided to a system, module, application, and so on, which adjusts operation of the vehicle. As an example, the user may adjust a steering sensitivity. This vehicle operation information **106** may therefore reflect the adjustment, such that a system, module, software, application, associated with control of steering may be updated accordingly.

[0075] As illustrated, the user interface **102** includes an autonomous visualization (e.g., a graphical depiction **110**A of a vehicle) along with map information **110**B in a combined view. As described above, the graphical depiction **110**A may reflect real-time operation information associated with the vehicle. For example, if the vehicle's lights are on, the graphical depiction **110**A may be updated to present the lights being on. The map information **110**B may represent a map proximate to a location of the vehicle. As will be described, this map information may be updated according to a current context associated with operation of the vehicle. For example, as the vehicle is being driven, the map may optionally zoom in to present a driving view. As another example, during navigation the map may optionally indicate a route the vehicle is to follow.

[0076] In some embodiments, the map information **110**B may be used, at least in part, to render the autonomous visualization. For example, the autonomous visualization may include a graphical representation of an external (e.g., real-world environment) about the vehicle. In this example, sensor information (e.g., images from image sensors) may be analyzed by the system **100**, or another processor or system in the vehicle, to render the graphical representation. The map information may be used to determine physical features or characteristics of the external environment. For example, a number of lanes may be identified based on the map information. As another example, roundabouts, upcoming lane movements or changes, upcoming highway interchanges, and so on, may be identified. In some embodiments, these physical features or characteristics may be used to inform the generation of the autonomous visualization. For example, the autonomous visualization may include a precise path of portions of the road which are upcoming and which may not be yet visible or which may be occluded. As another example, the combined view may be zoomed out, or translated, and the map information may inform generation of the autonomous visualization. For example, if a user adjusts the combined view to be translated forward one mile, or zoomed upward, then these portions of the external environment may not yet be visible. Advantageously, the map information may be used to render their appearance. For example, representations of buildings, and so on, may be included in teh combined view based on teh map information.

[0077] In FIG. **1**A, the user interface **102** is presenting a navigation user interface **112**. This interface may be usable by the user to indicate a location at which the user is to navigate. Advantageously, this navigation user interface **112** is positioned such that it does not occlude the combined view **110**A-**110**B described above. Additionally, the navigation user interface **112** may be positioned on a driver side so the driver may easily interact with the user interface **112**.

[0078] FIG. **1**B illustrates a block diagram of the example contextual user interface system **100** presenting an updated user interface **102** based on received user input **104**. In the illustrated embodiment, the user of the user interface **102** has provided user input **104** to enable navigation to a location. Thus, the navigation user interface **112** has updated to specify directions towards the location. Additionally, a route